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Branching fraction measurement of $B^0 \to \pi^+\pi^-\mu^+\mu^-$ using Run 1 and Run 2 LHCb data

Monday 8 April 2019 15:45 (15 minutes)

Flavour Changing Neutral Current processes are heavily suppressed in the Standard Model of particle physics and are potentially sensitive to contributions from as yet undiscovered particles. Recent measurements of b⟶s transitions by the LHCb collaboration show interesting tensions with Standard Model predictions.
The large LHC data set enables measurements of decays involving b⟶d transitions to be made for the first time. In combination with the b⟶s processes, these measurements will provide insights into the flavour structure of potential extensions to the Standard Model. The decay B0⟶ρ0μ+μ- is a particularly interesting b⟶d process, which was first probed using LHCb's Run 1 dataset. Progress towards an updated branching fraction measurement, using both Run 1 and Run 2 data, will be presented. In addition, the prospects for an angular analysis of the decay are discussed.

Presenter: MILLARD, Edward James (University of Warwick (GB))

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